

**What is claim is**

1. A white light-emitting device, comprising:

a light-emitting diode emitting one of blue and blue-green color;

a first phosphor capable of emitting a yellow light with 520 to 580 nm  
5 wavelength upon excitation by the light-emitting diode;

a second phosphor capable of emitting a red light with 580 to 640 nm  
wavelength upon excitation by the light-emitting diode;

the light from the light-emitting diode and the two phosphors being  
mixed to provide a white light.

10 2. The white light-emitting device as in claim 1, wherein the  
light-emitting diode emits a light of 450-500nm wavelength, preferably  
470-500nm wavelength

3. The white light-emitting device as in claim 1, wherein the formula of  
the first phosphor is preferably  $(Y_xM_yCe_z)Al_5O_{12}$ , wherein  $x + y = 3$ , and  $x$   
15  $y \neq 0$ ,  $0.5 > z > 0$ , M is selected from a group consisting of Tb, Lu and Yb,  
wherein  $(Y_xM_yCe_z)Al_5O_{12}$  is host matrix and Ce is luminescence center.

4. The white light-emitting device as in claim 1, wherein the formula of  
the second phosphor is preferably  $(M'_aEu_b)S$ , wherein  $a + b = 1 \sim 1.2$ , and  $a$ ,  
 $b \neq 0$ , M' is selected from a group consisting of Ca, Sr and Ba, wherein M' is  
20 host matrix and Eu is luminescence center.

5. The white light-emitting device as in claim 1, wherein the two  
phosphors are further mixed with a packaging material and each of the  
phosphors has a mixing ratio to change the color temperature and color  
rendering property of the white light-emitting device.